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Acute Retroversion of the Virgin Uterus.—Report of Cases, with Remarks upon the Difficulty in their Replacement.

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presented by the author

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When we consider that the exact natural or normal position of the nulliparous womb has not as yet been determined beyond question, for example the situation as stated by Fritsch, Schultze, and Savage all differ,[1] it is somewhat difficult to estimate the degree of deviation from this unknown standard.

We will accept, as we have already stated,[2] the statement that the fundus of the uterus is situated on a line with the plane of the superior strait, and that the os will touch a line drawn from the symphysis pubis to the lower margin of the fourth sacral vertebra; with a forward inclination of the fundus which also inclines somewhat to the right; we accept also the correctness of Emmet's "health line."[3] The inclination to the right is said to be due to the presence of the rectum on the left postero-lateral aspect of the pelvis, but we know that the lower bowel and rectum are often arranged in an anomalous manner, particularly in regard to their topography; for example, in the records of one hundred and ten autopsies in the Philadelphia Hospital, upon which we have made special notes in regard to this matter, the rectum was on the right side of the pelvis in twelve pelves, in nine it was almost in the centre of the sacrum, and in the remainder it was toward or on the left side.

Case I.—Observed in Philadelphia. Fannie M., aged 18, a healthy girl, fell from a step-ladder to the ground, a distance of perhaps five feet. She was immediately seized with sharp pelvic pains, and experienced a sensation as if something had given way. She was obliged to seek her bed. Forty-eight hours afterward her menses set in with extreme pain, her physician treated her for a month with opiates, during all this time there was a constant discharge of blood, sometimes almost purely arterial, then mucus tinged with blood, and again active hæmorrhage. The patient continued in about the above condition, and her next period set in with increased pains; in fact, they were almost unbearable. I was called in to see the case, and after quieting the pains by vaginal suppositories of opi-

[1] Bandl, Arch. für Gynäkolgie, Band xxvi, Heft 3, 1884, has reviewed the diversity of statements in this respect.

[2] Pacific Medical Journal, April, 1889. Edwards, Anteversion of the Pregnant Womb.

[3] Kolliker, Kohlrausch, Legendre, Freund, Braun, Sims and Langer all agree in placing the normal nulliparous womb about as we have stated.

um, an examination was made. The genitals were extremely sensitive, the vagina hot and dry, the fundus was found posteriorly and low down; in fact, the womb was turned almost upside down, and the examining finger first came in contact with the firm, rounded fundus through the intervening vaginal wall.

The os looked upward anteriorly and toward the internal pubic ligament. The uterus was movable, but appeared to be incarcerated through the firm aponeurotic fibres of the pelvic ligament. The patient was obstinately constipated and experienced much pain in urinating.

Recognizing the unusual character of the uterine displacement, a consultation was held with Dr. J. M. Keating, who, after examination, confirmed the diagnosis, and we were enabled to restore the womb to its natural position by rectal and vaginal manipulation, with the patient in an exaggerated knee-chest position. Immediately the girl expressed herself as relieved from pain; she was able to have a natural fecal evacuation, the first in thirty-two days; urination was no longer painful, nor was the call so exacting. A well-fitting Smith-Hodge pessary was introduced and worn for fourteen days, when it was removed on account of giving some pain, and was not re-introduced, as the case no longer demanded it.

The girl recovered from the immediate attack, but has ever since suffered from menstrual disorders, dysmenorrhœa, and laterally-developed right-sided tubal disease, for which she was to have been operated upon, but personal illness and change of residence have caused the case to drift from my observation.

Case II.—Miss M. C., aged 30, admitted to my private hospital August 22, 1889. Patient has been an extensive traveller, self-reliant and not at all hysterical. While in Boston three years ago endeavored to move a heavy trunk, had a sensation of something giving way, fell to the floor; from motives of delicacy would not permit a vaginal examination. Has suffered much since then, and came to California in order to improve her general health. Upon admittance, her health was much shattered, morale weakened and nerves irritable, stated that the pain was no longer endurable.

Menstruation appeared at the twelfth year, but has never been entirely healthy; for the last three years dysmenorrhœa, with very scanty and irregular flow, has existed; menstruation occurs every six or nine weeks. Before, during and after the flow the left leg is always numb and almost powerless, but is also the site of shooting pains. Bowels constipated.

Examination: Hymen was rigid; uterus, small; cervix, conical; os, undeveloped, pin-hole opening. Marked retroversion, with slight flexion; left tube and ovary somewhat enlarged, hyperæmic and tender; the ovary slightly prolapsed, no leucorrhœa, some vesical tenesmus, no cystitis. Extreme pain on defecation explained by situation of the ovary. Pelvic pain always much increased by assuming the erect position for any length of time.

Case III.—Miss G. T. B., aged 32, also a great traveller, having spent many years in the West, leading an active outdoor life, camping and driving, but, notwithstanding, has suffered much; most extreme nervousness, delusions and hallucinations. Upon

admittance to my private hospital, December 13, 1889, she was very hysterical, demanding from the nurse some means of ending her existence; life was no longer endurable.

Examination: Hymen extremely rigid and resisting and abnormally high in the vagina; much hyperæsthesia of the genital canal, mucous membrane of the vagina and vulva suffused and congested. Cervix, small, conical and very poorly developed; infantile womb, os would not admit the smallest probe, uterus in a condition of marked anteflexion, but had fallen bodily backward, that is, an anteflexed uterus retroverted; adnexa tender and hyperæsthetic.

Digestion faulty; sleep irregular, very anæmic, corpuscles reduced in number. Bowels torpid; alternating attacks of diarrhœa and constipation. It was learned that Miss B. came from a nervous family, that she had chorea as a child, arrived at puberty at the age of 13 years, but the flow was scanty and painful; all her life menstruation has lasted but one day, and the quantity of blood lost would not exceed two drachms. Until the age of 25, hair did not appear on the mons veneris or in the arm-pits; her breasts at this age began to develop somewhat, before they had been rudimentary.

At the age of 16 the patient fell from a carriage, both wheels of which passed over the lower abdomen from one anterior iliac spine to the other, necessarily just over the pelvic viscera. The patient was much prostrated by the accident, pelvic pain was severe and the nervous system shattered; ever since menstruation has been very irregular and even more scanty, attended by much pain and many mental delusions.

As confirmatory evidence regarding the position of the uterus since the accident, the patient states that before, during and after the menstrual flow she has a sensation that she describes as an "attack of hæmorrhoids," which is relieved by assuming an exaggerated knee-chest position and ballooning the vagina; she has learned to do this herself without the aid or advice of a physician. It is needless to remark that the sensation is produced by the fundus pressing upon the rectum and is relieved when this pressure is removed.

Cases 2 and 3 were anæsthetized, and with the assistance of Dr. Le-Fevre of San Diego the uterus was rapidly dilated, followed by a week of tamponing, three weeks in bed and, finally, the adjustment of a proper pessary restored them to comfort and health.

Keating and the writer have reported some cases in a joint paper (Med. & Surg. Rep., Nov. 5, 1887) which are briefly as follows:

Case IV was suffering excruciating agony, referred to the rectum, with constant bearing down and symptoms of such severity as to demand immediate relief. A rectal examination revealed, about midway between the outlet and the promontory of the sacrum, a round and elastic tumor, which was at once recognized as the fundus of the uterus. Her constant and uncontrollable bearing down seemed to be dependent upon the desire to extrude this mass, which was so firmly pressed against the bowel as to almost occlude the calibre.

By firm pressure, directing the force upward to the left, the fundus was pushed beyond the reach of the finger, and relief from pain was immediately noticed. An opium suppository, rest

in bed for a day or two, and enemata to keep the bowels free, administered daily, was all the further treatment. The patient was soon as well as ever. The history of the case was that of constipation, frequent attempts at evacuation, which required a great deal of effort, causing more or less annoyance and pain. On the day in question she had been sweeping the room, and attempted to lift some heavy object, which caused her to use her abdominal muscles with some force. This was followed by the acute attack just noticed.

CASE V.—Dr. Keating was sent for in haste to see a girl about 30 years old. She was a domestic living at service; had previously been in perfect health; the only history was of constipation. While washing windows, on attempting to push up an upper sash which required considerable force, she was suddenly seized with excruciating agony in the pelvic region and constant bearing down, which required her at once to lie down.

Applications were made to the abdomen, and in a short time the pain somewhat subsided. She did not see a physician, was able to walk a short distance to a friend's house. The next day she suffered intense pain. Examination was made under ether. The uterus was found in a state of very acute retroversion, the fundus pressing down upon the bowel, almost obstructing its calibre. It was impossible to push it up further than a short distance. In this condition the patient was allowed to come from under the ether, an exaggerated knee-chest position assumed, and by exerting gentle but firm pressure the fundus was finally pushed beyond reach and the uterus assumed its normal position. The patient was kept in bed for a few days, with cotton tampons, opium suppositories and injections of hot water to thoroughly relieve the bowel, which was very much packed.

She finally recovered without further bad symptoms.

This series of cases forms a most interesting study in the ætiology of posterior displacements of the nulliparous womb. All were due to trauma. In the first and third the force was direct; in the others it was indirect or muscular, the womb being crowded over backward and into the hollow of the sacrum. In Case 3, the condition differed from the others in that an ante-flexed womb was retro-displaced, retaining, however, its anterior curvature. This has been the most intractable of the series.

After our first case in Philadelphia, Dr. Keating and myself made some dissections upon the cadaver, with a view of learning the cause of the difficulty that we had experienced in replacing the womb, and also to discover, if possible, the factors which assisted in the posterior incarceration of the organ. A consultation of the standard works upon diseases of women shows, with almost absolute unanimity, the importance that is attached to the utero-sacral ligaments in maintaining the uterus in its abnormal position. These are the ligaments that Gray designates the posterior or recto-uterine, and which are described by Savage[1] as "crescentic prolongations of sero-muscular uterine platysma, containing, besides, muscular fibres prolonged from the vagina and uterine cortex,"

[1] Surgical Anatomy of the Female Pelvic Organs. 3d Edition. Plate 12.

also adding that the rectum has muscular connections with the utero-sacral ligaments. Parvin has devoted more space to these structures, and describes them as two semi-lunar folds passing from the uterus posteriorly just above the union of the vagina and attached to the third and fourth sacral vertebræ immediately within the lower part of the sacro-iliac joint.

The retro-uterine pouch—the so-called Douglas's pouch, is bordered laterally by these ligaments, and the last-quoted observer remarks that in some instances, where the retroverted uterus has sunk into this pouch, these ligaments interfere with its restoration.

Dornan[1] remarks that these ligaments can be distinguished by digital exploration of the rectum, and that intestine lying deep in the pouch of Douglas cannot always be recognized. In the earlier editions of Goodell's Gynæcology, 1880, he remarks that once in a while the empty (or the gravid) womb will be suddenly thrown into a state of retroversion, and remain so unless replaced. He has seen this follow an unexpected succussion, such as a misstep or a violent fit of coughing, when the bladder was overloaded. "The fundus of the womb then gets pushed backward below the sacral promontory, by which it is detained, and the woman finds herself in great pain and unable to pass her water."

The writer in Pepper's system, E. C. Dudley, while stating that retro-location of the uterus may occur by the organ being forced back into a post-normal location, does not make mention of the cause or causes which retain it in position. This list could be prolonged almost indefinitely, but to no avail, as sufficient has been stated for our purpose.

Dr. Keating and myself, through the courtesy and with the kind assistance of Dr. George McClellan, of the Philadelphia School of Anatomy, and Dr. John B. Deaver, of the University of Pennsylvania, were able to make some studies of the female cadaver. The abdomen was carefully laid open, and it was found in the three instances in which I was personally present that the retro-uterine pouch contained one or more coils of small intestine. In these three cases we displaced the uterus backward, and found, as it sunk posteriorly into the hollow, that these coils of intestine, momentarily displaced, found their way back almost at once to their former position, and were then superimposed upon the retro-displaced womb, and, furthermore, that the promontory of the sacrum had nothing whatever to do with the incarceration of the organ.

Upon first thought, when we were called to these cases, we concluded that by the sudden effort, the trauma or the succussion, the fundus uteri had been suddenly pressed downward and backward beneath one or other of the utero-sacral ligaments, a condition of affairs which theoretically could exist, as, with the uterus in its normal position, these ligaments form two fairly distinct bands; but, as we have already stated, by dissection these ligaments are found to be small folds or reduplications of peritoneum, containing a few bundles of muscular fibres attached to the uterus about the level of the internal os, or between it and the utero-vaginal junction, running back to the sacrum.

When the uterus is turned back-

[1] Handbook of Gynæcological Operations. London, 1887.

ward, either in a state of retroflexion or retroversion, the utero-sacral ligaments become almost or in fact completely obliterated, rendering it totally impossible for the fundus to become incarcerated beneath the fibres of the ligaments.

It must be borne in mind that these deductions are based upon a study of the pelvic organs of virgins. All the cases that we have seen have been in nulliparous women, and our studies upon the cadaver have been under the same conditions. In women who have borne many children, or in whom the pelvic viscera are much relaxed, there is a consequent relaxation of the utero-sacral ligaments, which, according to Kelly, involves a displacement of the cervix downward in the vagina, and a consequent backward displacement of the fundus uteri. Under these conditions, if the uterus was in a state of subinvolution, we can conceive of its possible retention by the utero-sacral ligaments, provided, of course, that they are relaxed and elongated; but we most definitely conclude that they do not merit consideration as factors in the posterior retention of the virgin uterus, or in parous women in whom the ligaments are intact.

Our observations, both upon the cadaver and in abdominal sections, have shown that the space which normally exists between the uterus and the rectum is usually filled with small intestine which completely obliterate the space which otherwise would exist, as the uterus is in close apposition to the bladder. Its movements are coincident with the changes in position of that viscus; it is then in this triangular space, the so-called Douglas's pouch, that we found the coils of small intestines pressing downward toward or upon the floor of the pelvis.

The mobility of the uterus depends to a certain marked extent upon the condition of the bladder, and we can readily understand that should the bladder be empty and the uterus low in the pelvis, any sudden effort which would produce contraction of the diaphragm and abdominal muscles might precipitate the knuckles of small intestine upon the uterus, force it backward and downward and retain it in that position by the bowel pressure from above. This is, of course, more likely to occur with an empty bladder and an intestine containing fæcal matter. Under these conditions, when the uterus is forced backward, spasm of the abdominal muscles and of the floor of the pelvis rapidly arises, and the condition is made worse by the bearing down and straining efforts of the woman; flatus rapidly accumulates and the patient endeavors to have a fæcal movement, which, of course, only further aids in the incarceration of the uterus.

Photographs taken directly from the dissections, and which show clearly the facts stated in this communication, are in the possession of Dr. John M. Keating,[1] of Philadelphia.

[1] Dr. Keating writes from Colorado, regretting that he cannot reach these photographs at present.

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